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Leukaemia Section

Mini Review

Hodgkin's disease

Niels B Atkin

Department of Cancer Research, Mount Vernon Hospital, Northwood, Middlesex, UK (NBA)

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Clinics and pathology

Disease

Hodgkin's disease (HD) is generally considered to involve a clonal expansion of neoplastic B lymphocytes.

Epidemiology

A distinguishing feature with non-Hodgkin's lymphomas (NHLs) is its relative frequency in patients under 20 years.

Pathology

Most HDs can be classified as nodular sclerotic (NS) or mixed cellularity (MS) subtypes; two uncommon subtypes, lymphocyte predominance and lymphocyte depletion, present less typical pictures and examples of the former have sometimes been reclassified as low-grade B-cell NHLs.

Prognosis

Unlike NHLs, the prognosis of HD has improved in recent decades with a five-year survival rate of over 80%.

Cytogenetics

Cytogenetics morphological

The neoplastic cells in typical HD lymph nodes comprise mononuclear Hodgkin and multilobate, binucleate or multinucleate Reed-Sternberg cells, and that these are clonal with modal chromosome numbers varying from case to case is shown by direct chromosome analysis and DNA measurements.

The modes are about twice as frequently in the triploid-tetraploid (particularly 65-80 chromosomes) as neardiploid region; the clonal aneuploidy has been demonstrated by simultaneous fluorescence immunophenotyping and interphase chromosomal analysis to occur in the Hodgkin and Reed-Sternberg cells.

Unlike NHLs, where a number of chromosomal translocations specific for histopathological types of tumour have been discovered, similarly specific changes have unfortunately not been reported for HD; occasionally, translocations such as t(14;18) and t(2;5) that are common in specific types of NHL have been found; deletions and duplications, common in other types of tumour, including NHLs, have been described in HD, such as del(1p), dup(1q), del(6q) and del(7q); a nonrandom change involving chromosome 4, with breakpoints in the region 4q25-28, has been found on several occasions and merits further investigation.

In chromosome studies, both direct and after culturing, diploid as well as aneuploid metaphases are commonly found in HD, not unexpectedly since histopathological studies usually reveal a considerable excess of lymphocytes and other cells with normal morphology compared to the aneuploid Hodgkin and Reed-Sternberg cells; a recent intriguing finding using FISH, however, has been that 1-12% of "normal" nuclei in HD have abnormalities, most commonly trisomies for various chromosomes.

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